16094 - ULLYSES LMC O4 Stars COS

Cycle: 27, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
1C	(1) FARINA-88	COS/FUV	2	17-Jun-2020 18:00:27.0	yes
2C	(2) N11-ELS-038	COS/FUV	2	17-Jun-2020 18:00:28.0	yes
3C	(3) SK-71D46	COS/FUV	2	17-Jun-2020 18:00:30.0	yes

6 Total Orbits Used

ABSTRACT

The Space Telescope Science Institute (STScI) Director has decided to devote up to 1000 orbits of Director's Discretionary time in observing Cycles 27-29 to a new Hubble Ultraviolet Legacy program focused on star formation and associated stellar physics. This new program, ULLYSES (UV Legacy Library of Young Stars as Essential Standards), will provide a UV spectroscopic reference sample of young (< 10 Myr) high- and low-mass stars. It will target over ~150 OB stars in the Magellanic Clouds and lower metallicity galaxies in the Local Group, and ~40 T Tauri stars and brown dwarfs in the Milky Way. In addition, ULLYSES will monitor 4 typical T Tauri stars over different rotational phases through at least three rotation periods, and over timescales of months to years. The resulting library will provide template spectra of massive stars at metallicities substantially below the well studied, while the low mass sample will cover a wide range of ages, accretion rates, and masses, including objects down to well below 0.5 M_sun. The legacy of this large UV dataset on the first 10 Myr of stellar evolution will be enhanced by complementary datasets obtained by the scientific community. In addition to the core goals of the program related to stellar astrophysics of low and high mass stars, this data will also enable exciting science in the fields of ISM, CGM, jets, and exoplanets. ULLYSES will be modeled after the Frontier Fields program: all data obtained will be non-proprietary. The implementation team at STScI is developing high-level science data products and a sophisticated database and website for disseminating data from the ULLYSES program and ancillary datasets for the ULLYSES target sample from space and ground-based facilities.

OBSERVING DESCRIPTION

This proposal includes a subset of the massive ULLYSES stars being observed in the Magellanic clouds.

Depending on target brightness, the main FUV spectral range will generally use either the STIS E140M setting or the combination of the COS c1291 + c1611 settings. Sufficiently bright stars without good FUSE data in the archive will also be observed with the COS c1096 setting to provide coverage at shorter wavelengths. Where time permits, stars of type O9 or later will also be observed with STIS E230M/1978, while for supergiants of spectral type B5 or later E230M/2707 may also be included. Where possible, targets of a given spectral type were selected to span both a range in extinction and in rotation rates to support a variety of stellar and ISM studies.

Signal-to-noise requirements used to determine the desired exposures times were defined as follows:
COS/G130M/c1096: 20 / nine-pixel resel at 1080 A
COS/G130M/c1291: 30 / six-pixel resel at 1150 A
COS/G160M/c1611: 30 / six-pixel resel at 1590 A
COS/G185M/c1953: 30 / three-pixel resel at 1860 A
COS/G185M/c1986: 30 / three-pixel resel at 1980 A
STIS/E140M/c1425: 20 / two-pixel resel at 1200 A
STIS/E230M/c1978: 20 / two-pixel resel at 1800 A
STIS/E230M/c2707: 20 / two-pixel resel at 2800 A
The actual implemented exposure times may be adjusted to efficiently use HST orbits, but should always provide at least 80% of the desired time as defined by the above requirements.

Additional details about the scientific motivation and technical implementation strategy of the ULLYSES observations can be found at http://www.stsci.edu/stsci-research/research-topics-and-programs/ullyses. The ULLYSES program is based on the recommendations of a working group led by Sally Oey; the full text of that group's report can be found at http://www.stsci.edu/files/live/sites/www/files/home/stsci-research/research-topics-and-programs/ullyses/_documents/HSTUV-report-ULLYSES.pdf.

Visit

Proposal 16094, FARINA-88-COS (1C) Wed Jun 17 22:00:30 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 1C; FARINA-88; P/COS Approved for Submission; P/DS 03/06/20 ; intrev:completed ; P/CP 26/06/20
vcheck; Enter targ name & Inst. & Resp. Sci.; FARINA-88 'MCPS 085.03420-69.65476' ; COS ; DS
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes Farina-88_gsc2.png Farina-88_2mass.png
vcheck; Selected ACQ strategy?; COS G130M/1291 0.3 s
vcheck; Possible ACQ or Sci spoilers?;
vcheck; Field BOT clear?; 1 Unknown found and resolved. See 16094_notes file.
vcheck; Visual BOT check for stars not in catalog?; yes - cleared with Zaritsky catalog. See 16094_notes file
vcheck; Orbit packing finalized?; 2 orbits even though 1 allocated - could fit in 1 with 30% reduction in exposure time and adjustment of buffer time. Instead used 2 orbits and increased exposure time by 2.0 (G130M/1291) and 1.93 (G160M/1611)
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 1 but needed 2 to avoid ~ 30% reduction in exposure times

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	FARINA-88	RA: 05 40 8.2221 (85.0342588d)	Epoch of Position: 2000	V=13.63	Reference Frame: ICRS
	Alt Name1: FBM2009-88	Dec: -69 39 17.25 (-69.65479d)		SpT=O4 III(f); E(B-V)=0.21; U =12.9; B=13.6; V=13.6	
	Alt Name2: MCPS-085.03420-69.65476	Equinox: J2000			

Comments: FARINA-88 : [AAOmega]_364, F09 088, [FBM2009] 88
Previous name : F09 088
Input file: LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
SIMBAD link ([FBM2009] 88): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=[FBM2009]+88&submit=submit+id
SpT = O4 III(f)
COS/G130M/c1096 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
COS/G130M/c1291 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
COS/G160M/c1611 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
COS/G185M/c1921 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
COS/G185M/c1953 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
COS/G185M/c1986 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
STIS/E140M/c1425 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
STIS/E230M/c1978 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
STIS/E230M/c2707 : rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag)
Coordinate pedigree: Gaia
Calculation performed 2020-02-24T17:58:24, v0.4
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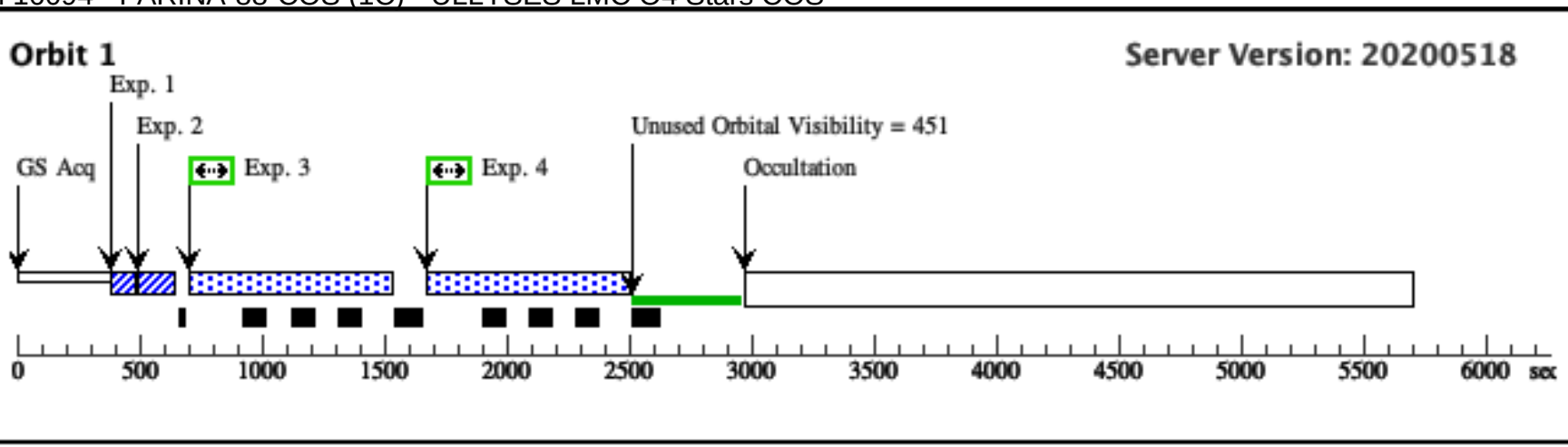
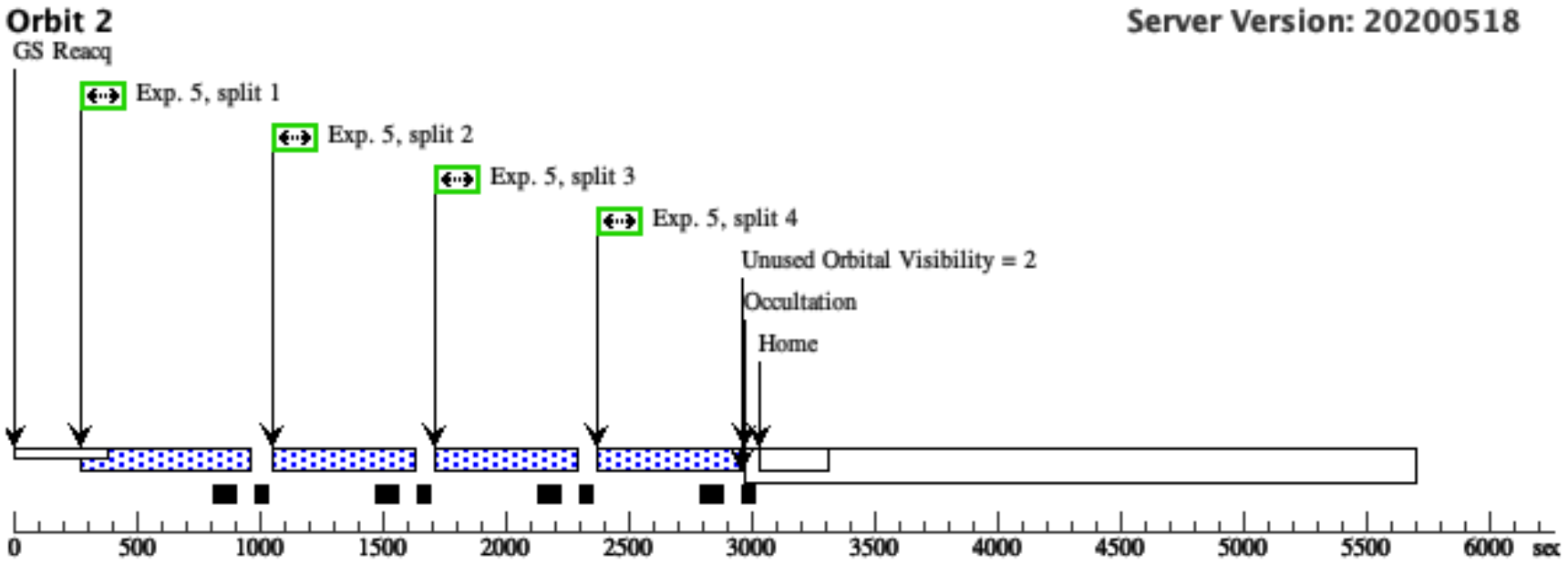
tstatus; FARINA-88; P/COS Approved for Submission; S/ins not started; P/DS 04/06/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; FARINA-88 'MCPS 085.03420-69.65476'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; no. Gaia coords - PM set to zero
tcheck; Adopted SED compared to Observations?; OK - no comparison data, but U matches
Category=EXT-STAR
Description=[GIANT O, OF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1445023)	(1) FARINA-88	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.3 Secs (0.3 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1445023)	(1) FARINA-88	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.3 Secs (0.3 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1444332)	(1) FARINA-88	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=192; FP-POS=3			780 Secs (780 Secs) *[==>]*	***[1]***
	Comments: rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None) *From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv* *Spectral type: O4 III(f) --> O4 III* *SED = FARINA-88_COS_G130M_c1291_sed.fits* *For exptime=780.0 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 4457.2 cts/s/segment* *brightest pixel: 0.064 cts/s/pix at 1270.0 A* *Calculation performed 2020-02-24T17:58:28, v0.4*								
4	G130M/1291-4 (COS.sp.1444332)	(1) FARINA-88	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=192; FP-POS=4			780 Secs (780 Secs) *[==>]*	***[1]***
	Comments: rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None) *From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv* *Spectral type: O4 III(f) --> O4 III* *SED = FARINA-88_COS_G130M_c1291_sed.fits* *For exptime=780.0 s, spectral region:* *1150.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 4457.2 cts/s/segment* *brightest pixel: 0.064 cts/s/pix at 1270.0 A* *Calculation performed 2020-02-24T17:58:28, v0.4*								
5	G160M/1611 (COS.sp.1444335)	(1) FARINA-88	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=384; FP-POS=ALL			527 Secs (2108 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***
	Comments: rn(WM-Basic(O4 III, Z=0.008, Teff=45709, log_lum=5.87, log_g=3.89) (extinction lmcavg=0.210), johnson U mag=12.870 vegamag); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None) *From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv* *Spectral type: O4 III(f) --> O4 III* *SED = FARINA-88_COS_G160M_c1611_sed.fits* *For exptime=1094.0 s, spectral region:* *1590.0 +- 0.5 A achieves SNR=30.0/resel* *global countrate (brightest segment): 3213.1 cts/s/segment* *brightest pixel: 0.049 cts/s/pix at 1420.0 A* *Calculation performed 2020-02-24T17:58:31, v0.4*								

Orbit Structure





Visit

Proposal 16094, N11-ELS-038-COS (2C) Wed Jun 17 22:00:31 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 2C; N11-ELS-038; P/COS Approved for Submission; P/DS 03/06/20 ; intrev:completed ; P/CP 26/06/20
vcheck; Enter targ name & Inst. & Resp. Sci.; N11-ELS-038 'PGMW 3100'; COS ; DS
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes N11-ELS-038_gsc2.png N11-ELS-038_2mass.png
vcheck; Selected ACQ strategy?; COS G130M/1291 0.5 s
vcheck; Possible ACQ or Sci spoilers?;
vcheck; Field BOT clear?; 1 Unknown found and resolved. See 16094_notes file.
vcheck; Visual BOT check for stars not in catalog?; yes - cleared with Zaritsky catalog. See 16094_notes file.
vcheck; Orbit packing finalized?; 2 orbits. Expanded exposure times by 1.41 (G130M/1291) and 1.34 (G160M/1611) to make more efficient use of available orbits.
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	N11-ELS-038	RA: 04 56 45.2039 (74.1883496d)	Proper Motion RA: 1.588 mas/yr	V=13.81	Reference Frame: ICRS
	Alt Name1: PGMW-3100	Dec: -66 25 10.78 (-66.41966d)	Proper Motion Dec: 0.007 mas/yr	SpT=O5 III(f+); E(B-V)=0.28; B=13.8; V=13.8	
	Alt Name2: BRRG-119	Equinox: J2000	Epoch of Position: 2000		

Comments: N11-ELS-038 : N11-038, N11_38, [ELS2006] N11 038
Previous name : N11-038
Input file: LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
SIMBAD link ([ELS2006] N11 038): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=[ELS2006]+N11+038&submit=submit+id
SpT = O5 III(f+)
COS/G130M/c1096 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
COS/G130M/c1291 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
COS/G160M/c1611 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
COS/G185M/c1921 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
COS/G185M/c1953 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
COS/G185M/c1986 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
STIS/E140M/c1425 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
STIS/E230M/c1978 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
STIS/E230M/c2707 : rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag)
Coordinate pedigree: Gaia
v sin i = 145
Calculation performed 2020-02-24T18:00:48, v0.4
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tstatus; N11-ELS-038; P/COS Approved for Submission; S/ins not started; P/DS 04/06/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; N11-ELS-038 'PGMW 3100'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; Yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - good match to IUE data
Category=EXT-STAR
Description=[GIANT O, OF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1445024)	(2) N11-ELS-038	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1445024)	(2) N11-ELS-038	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.5 Secs (0.5 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1444339)	(2) N11-ELS-038	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=305; FP-POS=3			995 Secs (995 Secs) *[==>]*	***[1]***

Comments: rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O5 III(f+) --> O5 III
SED = N11-ELS-038_COS_G130M_c1291_sed.fits
For exptime=1409.7 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2634.1 cts/s/segment
brightest pixel: 0.057 cts/s/pix at 1245.0 A
Calculation performed 2020-02-24T18:00:51, v0.4

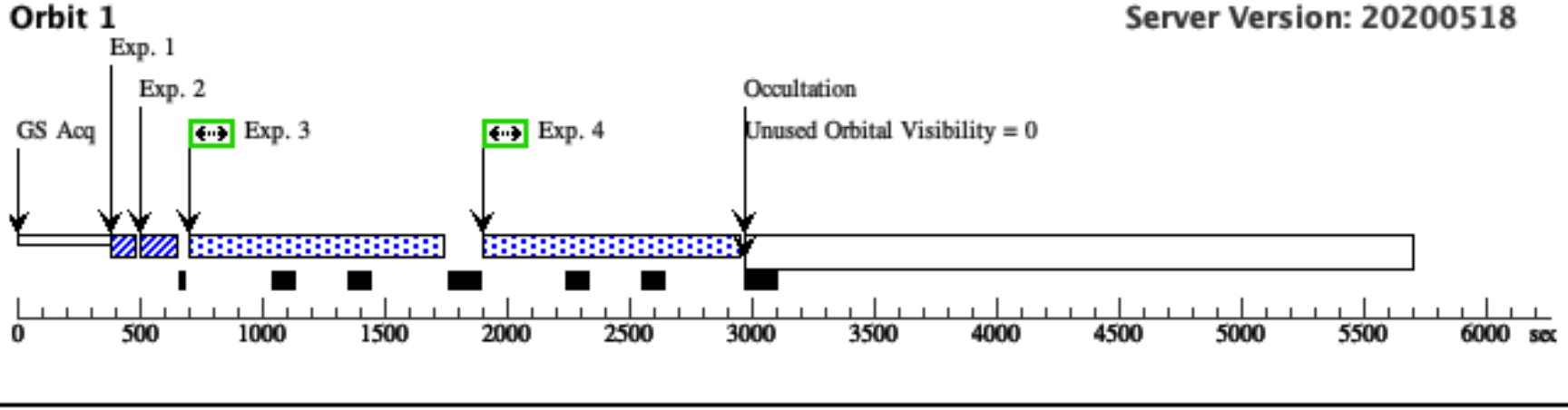
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G130M/1291-4 (COS.sp.1444339)	(2) N11-ELS-038	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=305; FP-POS=4			995 Secs (995 Secs) *[==>]*	***[1]***

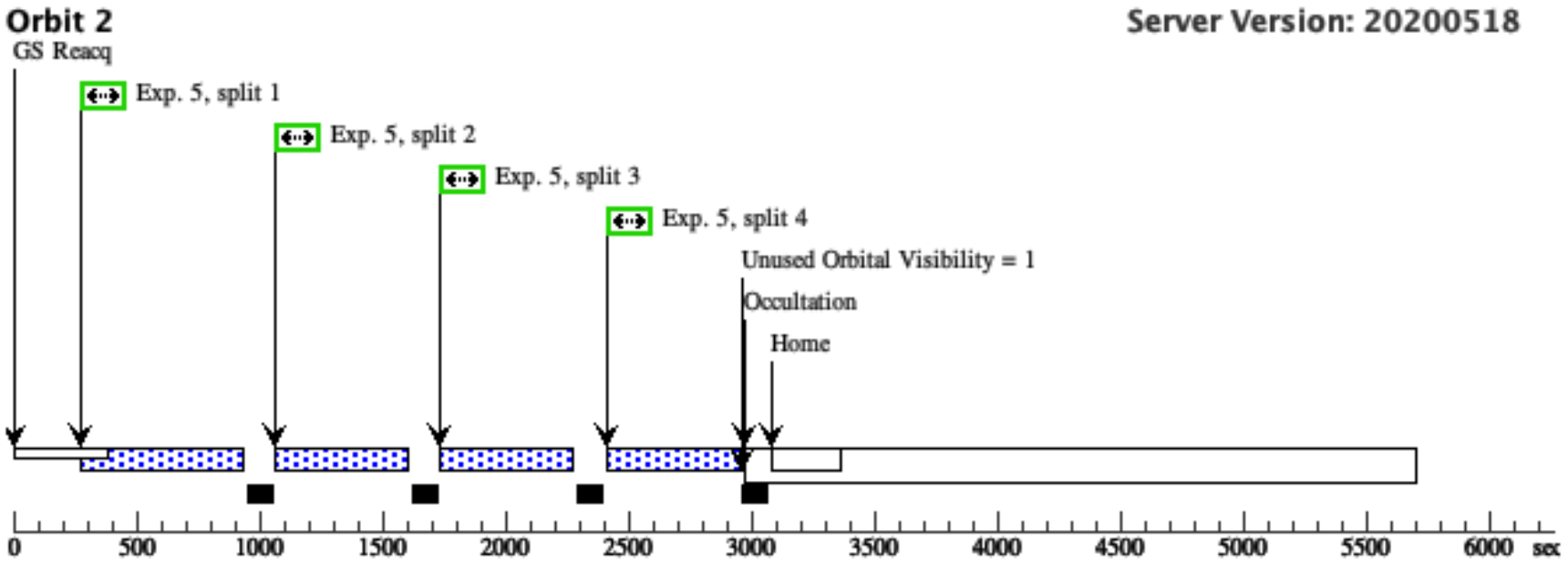
Comments: rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O5 III(f+) --> O5 III
SED = N11-ELS-038_COS_G130M_c1291_sed.fits
For exptime=1409.7 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2634.1 cts/s/segment
brightest pixel: 0.057 cts/s/pix at 1245.0 A
Calculation performed 2020-02-24T18:00:51, v0.4

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G160M/1611 (COS.sp.1444340)	(2) N11-ELS-038	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=525; FP-POS=ALL			492 Secs (1968 Secs) *[==>(Split 1)]* *[==>(Split 2)]* *[==>(Split 3)]* *[==>(Split 4)]*	***[2]***

Comments: rn(WM-Basic(O5 III, Z=0.008, Teff=42658, log_lum=5.81, log_g=3.83) (extinction lmcavg=0.280), johnson B mag=13.810 vegamag); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O5 III(f+) --> O5 III
SED = N11-ELS-038_COS_G160M_c1611_sed.fits
For exptime=1470.9 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2320.1 cts/s/segment
brightest pixel: 0.034 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:54, v0.4

Orbit Structure





Visit

Proposal 16094, SK-71D46-COS (3C) Wed Jun 17 22:00:31 GMT 2020

Diagnostic Status: No Diagnostics

Scientific Instruments: COS/FUV

Special Requirements: SCHED 100%

Comments: vstatus; 3C; SK-71D46; P/COS Approved for Submission; P/DS 03/06/20 ; intrev:completed ; P/CP 26/06/20
vcheck; Enter targ name & Inst. & Resp. Sci.; SK-71D46 'SK -71 46'; COS ; DS
vcheck; ETC numbers entered in APT?; completed
vcheck; Any screening violations?; no
vcheck; S/N ETC calcs done & documented?; N/A
vcheck; Field images checked & saved?; yes SK-71D46_gsc2.png SK-71D46_2mass.png
vcheck; Selected ACQ strategy?; COS G130M/1291 0.4 s
vcheck; Possible ACQ or Sci spoilers?;
vcheck; Field BOT clear?; 4 Unknowns found and resolved. See 16094_notes file.
vcheck; Visual BOT check for stars not in catalog?; yes - cleared with Zaritsky catalog. See 16094_notes file.
vcheck; Orbit packing finalized?; 2 orbits. Increased exposure times to ~1.3 initial value to pack orbits.
vcheck; Buffer times optimized?; yes
vcheck; Verify visit grouping correct; none needed
vcheck; Is visit ready for int. review?; yes
Allocated COS orbits = 2

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SK-71D46	RA: 05 31 49.5876 (82.9566150d)	Proper Motion RA: 2.237 mas/yr	V=13.24	Reference Frame: ICRS
	Alt Name1: N206-FS-214	Dec: -71 03 38.06 (-71.06057d)	Proper Motion Dec: 0.361 mas/yr	SpT=O4 If; E(B-V)=0.19; U=12.5; B=13.2; V=13.2; F1160=1.50 e-13	
	Alt Name2: OGLE-LMC-ECL-18366	Equinox: J2000	Epoch of Position: 2000		

Comments: SK-71D46 : [N206-FS]_214, Sk -71 46, SK -71 46
Previous name : Sk -71 46
Input file: LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
SIMBAD link (SK -71 46): https://simbad.u-strasbg.fr/simbad/sim-id?Ident=SK+-71+46&submit=submit+id
SpT = O4 If
COS/G130M/c1096 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
COS/G130M/c1291 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
COS/G160M/c1611 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
COS/G185M/c1921 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
COS/G185M/c1953 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
COS/G185M/c1986 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
STIS/E140M/c1425 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
STIS/E230M/c1978 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
STIS/E230M/c2707 : rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam)
Coordinate pedigree: Gaia
v sin i = 79
Calculation performed 2020-02-24T18:00:20, v0.4
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tstatus; SK-71D46; P/COS Approved for Submission; S/ins not started; P/DS 04/06/20; S/xx DD/MM/YY
tcheck; APT/SIMBAD target names: ; SK-71D46 'SK -71 46'
tcheck; Target info verification status?; OK
tcheck; Coordinates & P.M. updated?; Yes - Gaia coords - PM updated from Gaia
tcheck; Adopted SED compared to Observations?; OK - FUSE data is ~20% below SED, while UBV are above
Category=EXT-STAR
Description=[SUPERGIANT O, OF]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/PEAKXD (COS.sa.1445025)	(3) SK-71D46	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3; SEGMENT=BOTH			0.40 Secs (0.4 Secs) *[==>]*	***[1]***
2	ACQ/PEAKD (COS.sa.1445025)	(3) SK-71D46	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	CENTER=FLUX-WT-FLR; NUM-POS=5; STEP-SIZE=0.9; SEGMENT=BOTH			0.40 Secs (0.4 Secs) *[==>]*	***[1]***
3	G130M/1291-3 (COS.sp.1444342)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=296; FP-POS=3			775 Secs (775 Secs) *[==>]*	***[1]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G130M_c1291_sed.fits
For exptime=1192.1 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2952.6 cts/s/segment
brightest pixel: 0.040 cts/s/pix at 1268.5 A
Calculation performed 2020-02-24T18:00:23, v0.4

4	G130M/1291-4 (COS.sp.1444342)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=296; FP-POS=4			775 Secs (775 Secs) *[==>]*	***[1]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g130m,c1291,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G130M_c1291_sed.fits
For exptime=1192.1 s, spectral region:
1150.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2952.6 cts/s/segment
brightest pixel: 0.040 cts/s/pix at 1268.5 A
Calculation performed 2020-02-24T18:00:23, v0.4

5	G160M/1611-1.1 (COS.sp.1444343)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=612; FP-POS=1			246 Secs (246 Secs) *[==>]*	***[1]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G160M_c1611_sed.fits
For exptime=1763.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2013.7 cts/s/segment
brightest pixel: 0.031 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:26, v0.4

6	G160M/161 1-1.2 (COS.sp.144 4343)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=612; FP-POS=1	322 Secs (322 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G160M_c1611_sed.fits
For exptime=1763.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2013.7 cts/s/segment
brightest pixel: 0.031 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:26, v0.4

7	G160M/161 1-2 (COS.sp.144 4343)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=612; FP-POS=2	568 Secs (568 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G160M_c1611_sed.fits
For exptime=1763.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2013.7 cts/s/segment
brightest pixel: 0.031 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:26, v0.4

8	G160M/161 1-3 (COS.sp.144 4343)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=612; FP-POS=3	568 Secs (568 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G160M_c1611_sed.fits
For exptime=1763.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2013.7 cts/s/segment
brightest pixel: 0.031 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:26, v0.4

9	G160M/161 1-4 (COS.sp.144 4343)	(3) SK-71D46	COS/FUV, TIME-TAG, PSA	G160M 1611 A	BUFFER-TIME=612; FP-POS=4	568 Secs (568 Secs) *[==>]*	***[2]***

Comments: rn-max(WM-Basic(O4 I, Z=0.008, Teff=45709, log_lum=6.13, log_g=3.73) (extinction lmcavg=0.190), flux1160 +- 30.0A flux=1.5e-13 Flam); cos,fuv,g160m,c1611,psa,mjd#59305; fp-pos=None, segment=None)
From file LMC_2020Feb20/input/LMC_all_do1_fixed_wr_NewCoords_pids.csv
Spectral type: O4 If --> O4 I
SED = SK-71D46_COS_G160M_c1611_sed.fits
For exptime=1763.4 s, spectral region:
1590.0 +- 0.5 A achieves SNR=30.0/resel
global countrate (brightest segment): 2013.7 cts/s/segment
brightest pixel: 0.031 cts/s/pix at 1420.0 A
Calculation performed 2020-02-24T18:00:26, v0.4

Orbit Structure